# Algebra 2 Curriculum Map

## Mrs. Salehi

| TOPIC & TEXTBOOK CHAPTERS | Length | Month(s) |
|---|---|---|
| **Algebra Basics**<br>Chapter 1: Number Sets, Field Axioms, Variables, Expressions, Equations, Inequalities, Polynomials, Proving Properties from Axioms | 3 wks | Aug/Sep |
| **Functions & Relations, Linear Functions**<br>Chapters 2 & 3: Equations with Two Variables, Real World Functions, Four Faces of a Function, Graphs, Linear Functions, Linear Modeling | 3 wks | Sep |
| **Systems of Linear Equations and Inequalities**<br>Chapter 4: Linear Systems, Solution of Systems, Second-Order Determinants, Function Terminology, Systems of Linear Equations with Three or More Variables, Augmented Matrices, Higher-Order Determinants, Systems of Linear Inequalities, Linear Programming | 4 wks | Oct |
| **Quadratic Functions and Complex Numbers**<br>Chapter 5: Graphs of Quadratic Functions, x-Intercepts, Quadratic Formula, Imaginary and Complex Numbers, Evaluating Quadratic Functions, Quadratic Modeling | 3 wks | Nov |
| **Exponential and Logarithmic Functions**<br>Chapter 6: Exponential Functions, Exponentiation, Powers and Radicals, Scientific Notation, Solving Exponential Equations, Logarithms, Properties of Logarithms, Inverses of Functions, Exponential Modeling | 5 wks | Nov/Dec |
| **Rational Algebraic Functions**<br>Chapter 7: Rational Functions, Graphs, Asymptotes, Discontinuities, Special Products, Factoring, Long Polynomial Division, Factoring Higher Degree Polynomials (Factor Theorem), Products, Quotients, Sums and Differences of Rational Expressions, Fractional Equations, Variation Functions | 4 wks | Jan |
| **Trigonometry**<br>Chapter 13: Periodic Functions, Arcs and Rotation, Trigonometric and Circular Functions, Unit Circle, Right Triangle Problems | 3wks | Jan |
| **Irrational Algebraic Functions**<br>Chapters 8 and 10: Irrational Functions, Graphs, Radicals and Simple Radical Form, Radical Equations, Variation Functions, Higher-Degree Functions, Complex Numbers, Quadratic Equations from their Solutions, Graphs, Synthetic Substitution, Descartes' Rule, Upper Bound Theorem, Modelling | 2 wks | Feb |
| **Quadratic Relations & Higher-Degree Functions**<br>Chapter 9: Quadratic Relations, Circles, Ellipses, Hyperbolas, Parabolas | 4 wks | Feb/Mar |
| **Sequences and Series**<br>Chapter 11: Arithmetic and Geometric Sequences, Arithmetic and Geometric Means, Arithmetic and Geometric Series, Factorials, Binomial Series, Binomial Formula | 3 wks | Mar |
| **Probability and Data Analysis**<br>Chapter 12: Probability, Counting Principles, Permutations, Combinations, Properties of Probability, Statistics, Data Analysis, Standard Deviation | 3wks | Apr/May |